

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A multilayer composite article comprising:

a gel coat layer comprising a thermosetting resin;

a fiber reinforced laminate layer comprising a first set of fibers having a first length; and

a barrier layer disposed between the gel coat layer and the laminate layer;

wherein the barrier layer comprises a second set of fibers dispersed in a polyester resin, said second fibers having a second length shorter than the first length wherein the first length is 6 mm or greater and the second length is 1 mm or less.

2. (original) A multilayer composite according to claim 1, wherein the polyester resin comprises up to 25% of an isophthalic acid resin, based on the total weight of the polyester resin.

3. (original) A multilayer composite according to claim 1, wherein the polyester resin comprises 75-100% by weight of a dicyclopentadiene resin, based on the total weight of the polyester resin.

4. (original) A multilayer composite according to claim 1, wherein the polyester resin comprises 75-99% by weight dicyclopentadiene resin and 1-25% by weight isophthalic resin.

5. (cancelled)

6. (original) A multilayer composite according to claim 1, wherein the second length is 0.5 mm or less.

7. (original) A multilayer composite according to claim 1, wherein the second length is 0.4 mm or less.

8. (original) A multilayer composite according to claim 1, wherein the gel coat is 1/2-2 mm thick, the barrier coat is 1-3 mm thick, and the laminate layer is 2-5 mm thick.

9. (original) A multilayer composite according to claim 1, wherein the barrier coat comprises up to 45% by weight milled glass fibers of length less than 1 mm and 50-95% by weight resin comprising dicyclopentadiene resin and isophthalic acid ratio in a ratio of at least 4:1.

10. (original) A multilayer composite according to claim 1, wherein the barrier coat further comprises polymeric hollow microspheres.

11. (original) An automotive body panel comprising:

a gel coat layer;

a laminate layer; and

a barrier coat disposed between the gel coat and the laminate layer,

wherein the barrier coat comprises a polyester resin and reinforcing fibers of length 1 mm or less.

12. (original) A body panel according to claim 11, wherein the barrier coat

exhibits an elongation at break of at least 1%.

13. (original) A body panel according to claim 11, wherein the barrier coat

exhibits an elongation at break of at least 2%.

14. (original) A body panel according to claim 11, wherein the barrier coat

comprises dicyclopentadiene resin and isophthalic resin in a ratio of 4:1 and higher.

15. (original) A body panel according to claim 11, wherein the laminate layer

comprises a dicyclopentadiene resin and glass fibers of 6 mm in length or greater.

16. (original) A body panel according to claim 15, wherein the laminate further

comprises hollow polymeric microspheres.

17. (original) A body panel according to claim 11, wherein the laminate layer, the barrier coat, or both further comprise a pigment.

18. (original) A body panel according to claim 17, wherein the pigment comprises carbon black.

19. (original) A body panel according to claim 11, wherein the barrier coat comprises reinforcing glass fibers of length 0.5 mm or less.

20. (previously presented) A barrier coat composition comprising:
a resin component comprising:
80-100 parts of dicyclopentadiene resin and up to 20 parts of an
isophthalic acid resin, and
a reinforcing fiber component comprising fibers having a length of 1 mm or
less mixed with the resin component.

21. (original) A composition according to claim 20, wherein the reinforcing fiber component comprises fibers having a length of 0.5 mm or less.

22. (original) A composition according to claim 20, wherein the fibers have a length of about 0.4 mm.

23. (original) A composition according to claim 20, wherein the fibers have a length of about 0.025 mm.

24. (original) A composition according to claim 20, wherein the composition exhibits an elongation at break of 1% or greater.

25. (original) A composition according to claim 20, wherein the composition exhibits an elongation at break of 2% or greater.

26. (original) A composition according to claim 20, wherein the barrier coat further comprises a filler selected from the group consisting of hollow glass microspheres and polymeric hollow microspheres.

27. (original) A composition according to claim 20, wherein the resin comprises up to 40% by weight styrene monomer.

28. (currently amended) A method for preparing a composite article by spray up operation, comprising the steps of:

applying a gel coat into a mold;

applying a barrier coat over the gel coat in the mold; and

applying a laminate formula over the barrier coat,

wherein applying the laminate formula comprises providing the laminate formula comprising ~~contains~~ 20-60% by weight of first reinforcing fibers having a first length

of 6 mm or greater and 40-80% by weight of a paste comprising a laminate coat polyester resin; and

wherein applying the barrier coat comprises providing second fibers having a length of 1 mm or less than the first length dispersed in a barrier coat polyester resin.

29. (previously presented) A method according to claim 28, wherein the gel coat applied to a thickness of 0.2 to 2 mm, the barrier coat is applied to a thickness of 0.5 to 5 mm, and the laminate layer is applied to a thickness of 1-10 mm.

30. (previously presented) A method according to claim 28, wherein the thickness of the composite article is from 2 to 15 mm.

31. (previously presented) A method according to claim 28, wherein the composite article is an automotive body panel.

32. (previously presented) A method according to claim 28, wherein the laminate formula fiber comprises polymeric hollow microspheres.

33. (currently amended) A method according to claim 28, wherein the first reinforcing fiber comprise glass fibers of 12 mm or greater in length ~~or a second fibers comprise glass fibers of 1 mm or less in length.~~

34. (previously presented) A method according to claim 28, wherein the barrier coat polyester resin comprises 75-100 parts of a dicyclopentadiene resin and 1-25 parts of an isophthalic acid resin.

35. (currently amended) A method of producing an automotive body panel comprising the steps of:

- applying a gel coat composition to a mold surface;
- applying a barrier coat composition to the gel coat in the mold;
- applying a fiber reinforced laminate composition comprising fibers having a first length onto the barrier coat and in the mold;
- curing at 50°C. or less; and
- removing the cured article from the mold,

wherein applying the barrier coat comprises polyester resin and providing glass fibers having a second length shorter than the first length of 1 mm or less dispersed in a polyester resin.

36. (previously presented) A method according to claim 35, wherein the gel coat comprises a thermosetting resin.

37. (previously presented) A method according to claim 35, wherein the barrier coat exhibits elongation at break of 1% or greater.

38. (previously presented) A method according to claim 35, wherein the barrier coat exhibits elongation at break of 2% or greater.

39. (previously presented) A method according to claim 35, wherein the barrier coat comprises 100 parts of a polyester, including up to 20 parts of an isophthalic acid polyester resin.

40. (previously presented) A method according to claim 39, wherein the barrier coat comprises a dicyclopentadiene resin.

41. (previously presented) A method according to claim 40, wherein the barrier coat comprises glass fibers having a length of 1 mm or less.

42. (previously presented) A method according to claim 35, wherein the barrier coat comprises glass fibers having a length of 0.5 mm or less.

43. (previously presented) A method according to claim 35, comprising the steps of applying the gel coat to a thickness of 0.5-2 mm, applying the barrier coat to a thickness of 1-3 mm, and applying the laminate coat to a thickness of 2-5 mm.